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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,548	06/25/2003	Frank P. Engels	10541-1822	5446

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EXAMINER

SLITERIS, JOSELYNN Y

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,548

Applicant(s)

ENGELS ET AL.

Examiner

Joselynn Y. Sliteris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/17/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Drawings

2. The drawings are objected to because in Fig. 2, numeral "14" on the left side is not pointing to the vehicle steering mechanism; in Fig. 3, numeral "16" is not pointing to the second end of the connector rod; in Fig. 4, numeral "14" is not pointing to the vehicle steering mechanism. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "16" has been used to designate both second end of the connector rod and ball joint in Fig. 8. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the

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description: 28 (pg 6 line 3); 14a (pg 8 line 4). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities: on pg 5 line 15, "Figure 3" should be --Figure 4--; on pg 7 line 20, "10" should be --10a--.
- Appropriate correction is required.

Claim Objections

6. Claims 13-16 are objected to because of the following informalities: in claim 13 line 4, "outward" should be --outwardly--; in claim 13, lines 9-11 should be deleted as they are duplicates of lines 6-8. Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Wood, Jr. (U.S. Patent 5,080,520).

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9. Regarding claim 10, Wood, Jr. discloses a connector rod 40, 14 as in the present invention comprising;

a first end 44;

a second end (Fig. 1);

a shaft portion interconnecting said first 44 and second ends;

said first end 44 including a radial spherical bearing 80 disposed between said first end 44 and the vehicle steering mechanism 12 to allow said connector rod 40, 14 to pivot in a second plane, approximately orthogonal to the first plane, in response to horizontal movement of said second end of said connector rod 40, 14 in the second plane (Figs. 1,2).

10. With respect to claims 11 and 12, Wood, Jr. discloses the connector rod 40, 14 wherein:

said first end 44 of said connector rod 40, 14 includes an aperture 64, 66 for receiving a support shaft 72, 76, 78 of the vehicle steering mechanism 12, said aperture 64, 66 extending through said connector rod 40, 14 orthogonal to the first plane to allow said connector rod 40, 14 to pivot about the support shaft 72, 76, 78 in the first plane; and

said second end is cylindrical in shape and includes external threads for engaging a pivotal connection to the vehicle wheel 16 assembly (Figs. 1, 2).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood, Jr. (U.S. Patent 5,080,520) in view of Kondo (U.S. Patent 6,164,860), as cited by applicant.

13. Regarding claims 13-16, Wood, Jr. discloses a vehicle steering assembly as in the present invention comprising;

a vehicle steering mechanism 12;

a wheel 16 assembly;

a connector rod 40, 14 interconnecting said vehicle steering mechanism 12 and said wheel 16 assembly for transmitting motion from said vehicle steering mechanism 12 to said wheel 16 assembly;

said connector rod 40, 14 including a first end 44 pivotally connected to said vehicle steering mechanism 12 to allow said connector rod 40, 14 to pivot in a first plane in relation to said vehicle steering mechanism 12, a second end pivotally connected to said wheel 16 assembly, and a shaft portion interconnecting said first 44 and second ends (Figs. 1, 2);

said first end 44 including a radial spherical bearing 80 disposed between said first end 44 and said vehicle steering mechanism 12 to allow said connector rod 44, 14

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to pivot in a second plane, approximately orthogonal to the first plane, in response to movement of said second end of said connector rod 40, 14 in the second plane;

wherein said vehicle steering mechanism 12 includes a support shaft 72, 76, 78 and said first end 44 of said connector rod 40, 14 includes an aperture 64, 66 for receiving said support shaft 72, 76, 78, said support shaft being oriented orthogonal to the first plane to allow said connector rod 40, 14 to pivot about said support shaft 72, 76, 78 in the first plane; and

wherein said second end of said connector rod 40, 14 is cylindrical in shape and includes external threads for engaging a connection to the vehicle wheel 16 assembly.

Although notoriously old and well known in the art, Wood, Jr. does not specifically disclose the wheel assembly including a pivotal wheel hub for supporting a wheel, a knuckle mounted to said hub, and a pivot arm extending outward from said knuckle. However, Kondo discloses that it is old and well known in the art to provide a wheel assembly including a pivotal wheel hub for supporting a wheel 71, 171, a knuckle mounted to the hub, and a pivot arm 64, 164 extending outward from the knuckle (Fig. 1; Fig. 8 Prior Art). Kondo also discloses a ball joint 11, 111 disposed between and interconnecting the second end of the connector rod 1, 101 and the pivot arm 64, 164 to allow pivotal movement of the connector rod 1, 101 relative to the vehicle wheel assembly.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the vehicle steering assembly of Wood, Jr.

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with the conventional wheel hub, knuckle, pivot arm, and ball joint of Kondo, as it is notoriously conventional in the art and in order to facilitate steering.

Conclusion


14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselynn Y. Sliteris whose telephone number is 703-308-8225. The examiner can normally be reached on Mon-Wed 8:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 703-308-2089. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JYS
3/19/04


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3/22/04
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